

## ABSTRACT

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The aim of the present invention is to provide a close-loop, zero discharge and clean oxidation pulping method and technology. In accordance with present invention, it takes advantage of active oxygen free radical generated by reduction reaction of molecular oxygen in process reactor to transform and separate lignin to change chromophoric group in the intercellular space and obtain paper pulp. The conventional pulping technologies which use harmful polluting chemicals such as acid, alkaline, chlorine, anthraquinone and so on are basically changed in the present invention. The cooking and bleaching process, generating severe pollution, can be avoided. The abundant yearly grown fiber materials can be utilized in this process, and water and energy can be saved. The present invention can cut down production cost and have excellent social, economic and environmental performance.